

## Catalogue of American Amphibians and Reptiles.

DIXON, JAMES R. 1973. *Phyllodactylus*.

*Phyllodactylus* Gray

## Leaf-toed geckos

*Phyllodactylus* Gray, 1828:3. Type-species, *Phyllodactylus pulcher* Gray, 1828, by monotypy (see Remarks).

*Discodactylus* Fitzinger, 1843:95. Type-species, *Phyllodactylus tuberculosus* Wiegmann, 1835, by original designation.

• **CONTENT.** Forty-five species are recognized (see Key to the Species) of which 44 are extralimital. The Old World species usually referred to *Phyllodactylus* are currently under study, and only New World species are treated here.

• **DEFINITION.** Medium-sized gekkonine lizards (maximum snout-vent length 100 mm) with granular dorsal scales and usually with rows of enlarged dorsal tubercles. The terminal subdigital lamellae are enlarged to form two leaf-like pads. The other subdigital lamellae are narrow and in a single row on most of the digit, and in two or three rows just proximal to the greatly expanded terminal pair. The ventral scales are smooth and imbricate. The dorsal caudal scutellation is granular, in whorls, with or without rows of enlarged tubercles. Scales in the median subcaudal row are often enlarged. The endolymphatic sacs usually extend into the dorsolateral region of the neck and often become calcified. Eyelids are absent, and the pupil is vertical.

Sexual dimorphism is limited, but males usually have the postanal region swollen around the cloacal sacs and bones. Preanal and femoral pores are absent. There is considerable variation in color and pattern in some species.

The premaxillary teeth number 8 to 12. Nasal and parietal bones are paired, and the stapes is perforated for passage of the stapodial artery. There are 26 presacral, 2 sacral, and 5 pygal vertebrae, and 10 sternal ribs. The interclavicle is usually cruciform, and the clavicle has a single, sometimes marginal, fenestra. The precoracoid and mesoscapula are not united by cartilage.

The leaf-like terminal subdigital lamellae distinguish *Phyllodactylus* from all other Western Hemisphere gekkonid genera. In some sand-dwelling species of Peru and Chile the terminal lamellae are reduced in size, but are still recognizable.

• **DESCRIPTIONS.** Generic descriptions are in Boulenger (1885), Cope (1900) and Loveridge (1947). General or detailed descriptions of various species are in Boulenger (1885), Cope (1900), Van Denburgh (1912), Taylor (1942), Dixon (1960, 1962, 1964a, 1964b, 1966, 1968), and Dixon and Huey (1970). Cope (1892, 1900) and Noble (1921) described the osteology of the genus.

• **ILLUSTRATIONS.** Line drawings of scutellation are in Cope (1900), Taylor (1942), and Mechler (1968). Kerster and Smith (1955) illustrated the cloacal bones and sacs. Black and white photographs of various species are in Mertens (1952), Kerster and Smith (1955), Taylor (1956), Dixon (1962, 1968) and Dixon and Huey (1970). For references to illustrations of *P. xanti* see Dixon (1969).

• **DISTRIBUTION.** From southern California to Costa Rica, and from Ecuador to northern Chile on the Pacific coast, including the Galapagos Islands. From British Honduras to Guatemala via the Motagua Valley, and on associated islands of the northwestern Caribbean. In northern South America from northeastern Colombia to southern Venezuela, via the Rio Orinoco, and the Venezuelan coastal islands, Dutch Leeward islands, Barbados, and Puerto Rico.

• **FOSSIL RECORD.** None.

• **PERTINENT LITERATURE.** Of the several hundred publications containing remarks on the genus, only a few are pertinent at the generic level. Underwood (1954) and Kluge (1967) reviewed the relationships of gekkonid genera, and included data on *Phyllodactylus*. Vanzolini (1968a, 1968b) reviewed Brazilian geckos and presented a zoogeographic analysis of the South American gecko fauna.

Reviews of regional phyllodactyl faunas are as follows: Mexico (Smith and Taylor, 1950; Dixon, 1960, 1964b, 1966);

Central America (Mertens, 1952; Taylor, 1956; Dixon, 1960, 1964b, 1968; Peters and Donoso-Barros, 1970); Caribbean (Kerster and Smith, 1955; Dixon, 1962, 1964a); South America (Werner, 1912; Dixon, 1962; Mechler, 1968; Rivero-Blanco and Lancini, 1968; Vanzolini, 1968a, 1968b; Dixon and Huey, 1970; Peters and Donoso-Barros, 1970); Galapagos (Heller, 1903; Van Denburgh, 1912); United States (see Dixon, 1969).

• **KEY TO THE SPECIES.** Since only one species (*P. xanti*) occurs in the United States, a key is not included. Keys to the *Phyllodactylus* species of other areas are in Van Denburgh (1912, Galapagos), Smith and Taylor (1950, Mexico), Dixon (1962, 1964a, Caribbean), Dixon (1964b, Mexico and Central America), Peters and Donoso-Barros (1970, Central and South America), and Dixon and Huey (1970, South America).

The following list includes all species currently regarded as valid (Dixon and Huey, 1970), with author and date of description, arranged alphabetically in four geographic groups.

United States, Mexico, and Central America (including coastal islands): *angelensis* Dixon, 1966; *apricus* Dixon, 1966; *bordai* Taylor, 1942; *bugastrolepis* Dixon, 1966; *davisi* Dixon, 1964; *delcampi* Mosauer, 1936; *duellmani* Dixon, 1960; *homolepidurus* Smith, 1935; *insularis* Dixon, 1960; *lanei* Smith, 1935; *muralis* Taylor, 1940; *palmeus* Dixon, 1968; *partidus* Dixon, 1966; *paucituberculatus* Dixon, 1960; *santacruzensis* Dixon, 1966; *tinklei* Dixon, 1966; *tuberculosus* Wiegmann, 1835; *unctus* Cope, 1863; *xanti* Cope, 1863.

Caribbean Islands: *julieni* Cope, 1862; *martini* Van Lidth de Jeude, 1887; *pulcher* Gray, 1830; *rueteni* Hummelinck, 1940; *wirshingi* Kerster and Smith, 1955.

South America: *angustidigitus* Dixon and Huey, 1970; *clinatus* Dixon and Huey, 1970; *dixonii* Rivero-Blanco and Lancini, 1968; *gerrhopygus* Wiegmann, 1835; *heterurus* Werner, 1907; *inaequalis* Cope, 1876; *interandinus* Dixon and Huey, 1970; *johnwrighti* Dixon and Huey, 1970; *kofordi* Dixon and Huey, 1970; *lepidopygus* Tschudi, 1846; *microphyllus* Cope, 1876; *pumilus* Dixon and Huey, 1970; *reissi* Peters, 1862; *sentosus* Dixon and Huey, 1970; *ventralis* O'Shaughnessy, 1875.

Galapagos Archipelago: *barringtonensis* Van Denburgh, 1912; *bauri* Garman, 1892; *darwini* Taylor, 1942; *galapagoensis* Peters, 1869; *gilberti* Heller, 1903; *leei* Cope, 1889.

• **REMARKS.** Gray (1828), in the original description of the genus *Phyllodactylus*, indicated that he had earlier published



MAP. The composite range of the species of *Phyllodactylus* is shaded.

notes on two specimens under the generic name *Ptyodactylus* (Gray, 1825). He rectified this mistake by describing them as representing a new genus, *Phyllodactylus*, and a new species *P. pulcher*, type-locality unknown. *Phyllodactylus pulcher* was later found to be identical with *P. spatulatus* Cope, 1862, from Barbados, British West Indies (Parker, 1935), thus confirming the type of *Phyllodactylus* as a New World species.

Inclusion of "*Gerrhopygus* Gray, 1845" in the synonymy of *Phyllodactylus* (Wermuth, 1965; Peters and Donoso-Barros, 1970) is an error. The name "*Gerrhopygus*" appears in the key couplet leading to *Diplodactylus* (= *Phyllodactylus*) *gerrhopygus* in Gray (1845:150), but was not formally proposed as a new genus-group name and does not appear in Gray's list of genera (1845:143-146).

• **ETYMOLOGY.** The name *Phyllodactylus* is from the Greek words *phyllon* "leaf" and *daktylos* "finger," in allusion to the leaf-like terminal subdigital lamellae.

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